Scatter Plot with Random Distribution

Aim

To create a Python program that draws a scatter graph using a random distribution for X and Y coordinates plotted against each other.

Algorithm

1. Import required libraries (matplotlib.pyplot and numpy)
2. Generate random data for X and Y coordinates using numpy
3. Create a scatter plot using plt.scatter()
4. Set labels for X and Y axes
5. Set a title for the plot
6. Display the plot

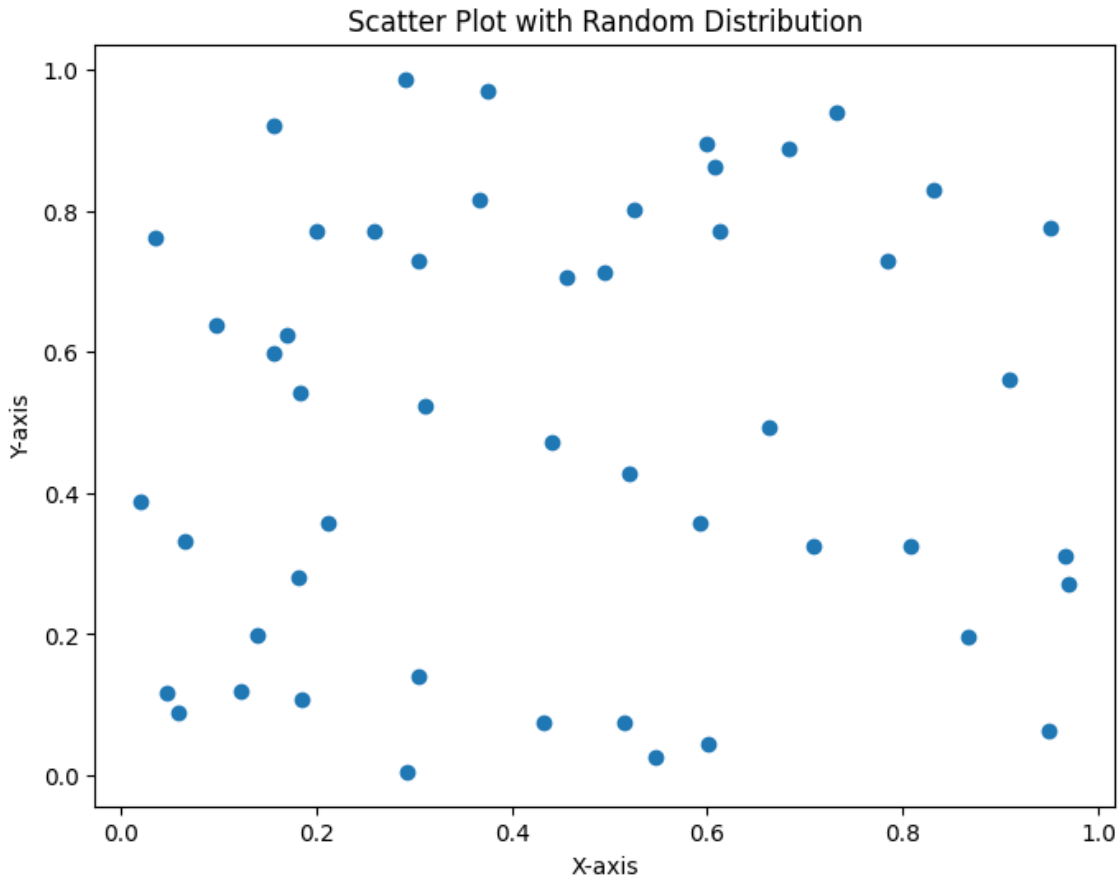
Code

```
import matplotlib.pyplot as plt
import numpy as np

np.random.seed(42)
x = np.random.rand(50)
y = np.random.rand(50)

plt.figure(figsize=(8, 6))
plt.scatter(x, y)
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.title('Scatter Plot with Random Distribution')
plt.show()
```

Output



Result

The program successfully creates a scatter plot using randomly generated X and Y coordinates. The plot displays 50 points scattered across the graph, demonstrating a random distribution. The X and Y axes are labeled, and the plot has a title "Scatter Plot with Random Distribution".